

# Characteristics of Consumer Demand for Shell Eggs in Metropolitan Honolulu

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# Characteristics of Consumer Demand for Shell Eggs in Metropolitan Honolulu

FRANK S. SCOTT, JR.,<sup>1</sup> and PENG KIN LIM<sup>2</sup>

## INTRODUCTION

The Hawaii egg industry has undergone a significant expansion during recent years, constituting an increasingly important segment of the agricultural economy of the State. During the 10-year period from 1954 to 1964, the quantity of eggs marketed by Hawaii producers increased by 161 percent from 5,838,000 dozen to 15,250,000 dozen, representing cash receipts of \$4,121,000 and \$8,281,000, respectively.<sup>3</sup> A number of factors were responsible for this increase. The proportion of the total egg supply represented by Hawaii production in relation to imports increased from 63 percent in 1954 to 93 percent in 1964. Annual per capita consumption of shell eggs for the State increased from 202 in 1954 to 269 in 1964. Population of the State increased from 510,391 in mid-1954 to 723,178 in mid-1964. In spite of the significant increase in Hawaii per capita consumption, it is still considerably below the United States average of 325 eggs per capita in 1964 (which declined from 379 in 1954). In view of these dynamic changes, there is need for an up-to-date study of characteristics of consumer demand as an aid to further expansion of the Hawaii egg industry and to assist producers and handlers in supplying the kinds of eggs consumers want.

## OBJECTIVES

The primary objective of the study on which this publication is based was to determine characteristics of consumer demand for eggs, with respect to buying habits, consumption patterns, and price, as related to selected socio-economic characteristics; namely, family income and ethnic origin.

## PROCEDURES

The study is based on random sample surveys during 1964 of 1,545 households in Honolulu and 240 in Kailua.<sup>4</sup> The primary reasons for including Kailua in the survey were to serve as a check on the Honolulu

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<sup>3</sup>*Statistics of Hawaiian Agriculture*, Hawaii Crop and Livestock Reporting Service, Hawaii State Department of Agriculture, U.S. Department of Agriculture.

<sup>4</sup>Specific sampling procedures are described in Appendix A of this report.

Table 1. Distribution of families surveyed, by income and ethnic groups

City and income groups	Caucasian		Caucasian predominant		Japanese		Japanese predominant		Chinese		Part Hawaiian <sup>a/</sup>		Filipino		Miscellaneous		All nationality groups	
	Percent of Caucasian	Percent of all nationalities	Percent of Caucasian Predominant	Percent of all nationalities	Percent of Japanese	Percent of all nationalities	Percent of Japanese Predominant	Percent of all nationalities	Percent of Chinese	Percent of all nationalities	Percent of Part Hawaiians	Percent of all nationalities	Percent of Filipino	Percent of all nationalities	Percent of Miscellaneous	Percent of all nationalities	Percent of all Groups	Percent of all nationalities
<u>Honolulu</u>																		
Under \$4,000	23	6	33	2	12	4	25	1	19	2	33	2	20	2	33	1	20 <sup>*</sup>	100
\$4,000 to \$7,999	35	9	33	2	44	15	25	1	36	4	33	2	40	4	33	1	38	100
\$8,000 to \$9,999	15	4	17	1	18	6	25	1	9	1	17	1	20	2	33	1	17	100
\$10,000 and over	27	7	17	1	26	9	25	1	36	4	17	1	20	2	1	(0.2)	25	100
All income groups	100	26	100	6	100	34	100	4	100	11	100	6	100	10	100	3	100	100
<u>Kailua</u>																		
Under \$4,000	7	4	14	1	5	1	b/	b/	b/	b/	b/	b/	b/	b/	11	2	8	100
\$4,000 to \$7,999	24	13	43	3	25	5	b/	b/	b/	b/	b/	b/	b/	b/	50	9	30	100
\$8,000 to \$9,999	18	10	14	1	30	6	b/	b/	b/	b/	b/	b/	b/	b/	11	2	19	100
\$10,000 and over	51	28	29	2	40	8	b/	b/	b/	b/	b/	b/	b/	b/	28	5	43	100
All income groups	100	55	100	7	100	20	b/	b/	b/	b/	b/	b/	b/	b/	100	18	100	100

<sup>a/</sup> Including a very small and indeterminate number of Pure Hawaiians.<sup>b/</sup> Including Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

findings and because of significant differences in income and ethnic groups between the two communities. Survey data were supplemented by historical data on prices and marketings of island-produced eggs and mainland imports.

All survey data were obtained by personal interview. A copy of the questionnaire is appended to this report as Appendix B. Distribution of households in Honolulu and Kailua by ethnic origin and income group (Table 1) is included as an aid in analyzing consumer demand.

### **PER CAPITA CONSUMPTION**

Data on per capita consumption were obtained by survey for the primary purpose of determining comparative consumption by family characteristics; primarily ethnic origin and family income.

Table 2, which shows a breakdown of per capita consumption by ethnic and income groups, indicates no significant differences in annual per capita consumption of eggs among families of Caucasian, Japanese, and Chinese origin. Consumption among Caucasian predominant, Japanese predominant, and Part Hawaiian was, however, somewhat higher than for the above-mentioned groups.

In Honolulu, consumption was highest among the \$4,000 to \$7,999 income groups, whereas in Kailua, the highest per capita consumption was in low income households with annual incomes of less than \$4,000.

For all ethnic groups combined, per capita consumption was somewhat higher among the low income groups, although there were some inconsistencies in this respect. Also there appeared to be a stronger negative correlation between income and egg consumption among the Caucasian households than among the Oriental households.

In spite of the various inconsistencies, there appears to be sufficient evidence to indicate that a more specific correlation between income per family and per capita egg consumption of these families would show a pattern in which per capita consumption would be highest among the low-middle income group and lowest among the high-middle income group.

### **FREQUENCY OF PURCHASE**

Most Hawaii consumers tend to purchase eggs once a week. Once-a-week purchases were somewhat more predominant in Honolulu than in Kailua, with 70 percent in Honolulu, but only 60 percent in Kailua, purchasing at that frequency rate (Table 3). Twelve percent of the homemakers in Honolulu and 13 percent of those in Kailua tended to purchase eggs twice a week. Eighteen percent in Honolulu and 25 percent in Kailua purchased only once every 2 weeks or less frequently. Weekly purchases were somewhat more predominant among the Japanese and Chinese groups than among the other segments of the population, with about three-fourths of the purchases on a weekly basis by the Japanese and Chinese groups in Honolulu and 60 percent on a weekly basis by the Japanese group in Kailua. Over one-fifth of the Caucasians in Honolulu purchased their eggs on a biweekly basis.

Table 2. Annual per capita consumption of eggs, by ethnic and income groups, Honolulu and Kailua, 1964<sup>a/</sup>

City and ethnic origin	Annual per capita consumption				
	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups
<u>Honolulu</u>					
Caucasian	259	267	242	263	259
Caucasian predominant	251	312	312	279	296
Japanese	238	259	263	242	255
Japanese predominant	267	435	316	238	345
Chinese	251	267	246	234	251
Part Hawaiian <sup>b/</sup>	337	242	325	333	283
Filipino	205	251	222	275	242
Miscellaneous	267	259	246	283	259
All groups	259	283	271	267	275
<u>Kailua</u>					
Caucasian	325	263	201	242	242
Caucasian predominant	173	238	246	300	259
Japanese	246	234	242	234	238
Miscellaneous <sup>c/</sup>	201	263	181	246	242
All groups	263	255	218	242	242

<sup>a/</sup> Inasmuch as there is typically an overestimation bias for quantitative data obtained by survey, the data obtained by this method were multiplied by a corrective factor of 0.79 to correspond with recorded sales of eggs in relation to population as determined from Honolulu Unloads, Federal-State Market News Service, USDA and Hawaii Department of Agriculture. This downward adjustment corrected for absolute sales and does not alter the proportionate differences in sales by ethnic and income groups obtained in the survey.

<sup>b/</sup> Including a very small and indeterminate number of Pure Hawaiians.

<sup>c/</sup> Including Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

Table 3. Frequency of purchase of eggs, by ethnic origin and income group

City and ethnic origin	Twice weekly or more frequently					Weekly					Biweekly or less frequently				
	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups
	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
<u>Honolulu</u>															
Caucasian	6	9	10	16	11	55	64	71	69	64	39	28	20	15	25
Caucasian predominant	8	16	18	7	12	54	59	73	80	63	38	26	9	13	25
Japanese	8	9	15	19	12	78	82	77	76	79	14	9	8	6	9
Japanese predominant	23	17	13	20	18	54	70	63	67	65	23	13	26	13	17
Chinese	4	16	5	11	11	79	73	91	76	78	17	12	5	13	12
Part Hawaiian <sup>a/</sup>	18	9	24	33	17	59	63	56	46	59	24	27	20	21	24
Filipino	3	12	13	13	9	58	66	75	88	66	39	22	13	0	25
Miscellaneous	20	16	0	3	16	20	79	67	67	61	60	5	33	0	24
All groups	8	11	13	17	12	61	72	73	72	70	31	17	14	11	18
<u>Kailua</u>															
Caucasian	0	19	8	14	14	22	53	78	68	63	78	28	13	18	23
Caucasian predominant	0	33	0	14	18	50	50	100	86	71	50	17	0	0	12
Japanese	0	17	25	21	20	33	58	75	53	60	67	25	0	26	20
Miscellaneous <sup>b/</sup>	0	10	0	0	4	40	50	75	64	55	60	41	33	40	40
All groups	0	16	13	15	13	32	53	78	66	61	69	30	9	20	25

<sup>a/</sup> Including a very small and indeterminate number of Pure Hawaiians.<sup>b/</sup> Including Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

Table 4. Quantity of eggs purchased at one time, by ethnic origin and income group

City and ethnic origin	One dozen					Two dozen					Three dozen				
	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups
	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
<u>Honolulu</u>															
Caucasian	42	35	37	46	40	30	40	34	31	34	17	11	12	10	12
Caucasian predominant	58	41	9	53	44	25	29	27	33	23	13	7	27	7	11
Japanese	50	30	31	21	30	33	42	33	45	40	9	16	19	27	19
Japanese predominant	39	41	57	47	43	62	31	29	20	34	0	22	0	27	16
Chinese	38	23	13	24	24	45	38	58	48	46	17	18	21	11	16
Part Hawaiian <sup>a/</sup>	28	17	20	12	18	24	32	32	20	29	21	24	20	44	26
Filipino	42	27	38	0	30	26	35	38	50	33	13	19	13	25	17
Miscellaneous	40	21	0	33	23	0	42	43	67	33	10	21	14	0	15
All groups	43	30	29	30	32	31	38	36	32	36	14	16	17	19	17
<u>Kailua</u>															
Caucasian	0	44	37	36	35	30	22	48	32	33	30	22	11	23	21
Caucasian predominant	67	33	0	13	26	33	67	50	63	57	0	0	0	25	11
Japanese <sup>b/</sup>	33	17	39	37	33	33	42	50	21	37	0	17	11	26	17
Miscellaneous	14	13	0	0	9	29	39	100	23	38	29	13	0	38	21
All groups	17	29	33	30	29	30	34	53	31	36	22	16	10	25	20

City and ethnic origin	Four dozen and over				
	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups
	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
<u>Honolulu</u>					
Caucasian	11	14	16	13	13
Caucasian predominant	4	22	36	7	17
Japanese	8	13	17	8	10
Japanese predominant	0	6	14	7	6
Chinese	0	22	8	16	25
Part Hawaiian <sup>a/</sup>	27	28	28	24	27
Filipino	20	20	13	35	19
Miscellaneous	50	16	43	0	28
All groups	13	17	18	12	15
<u>Kailua</u>					
Caucasian	40	12	4	9	11
Caucasian predominant	0	0	50	0	5
Japanese <sup>b/</sup>	33	25	0	16	14
Miscellaneous	28	35	0	38	32
All groups	30	21	4	13	15

<sup>a/</sup> Including a very small and indeterminate number of Pure Hawaiians.

<sup>b/</sup> Including Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

There was a much more significant correlation between frequency of purchase and income than between frequency of purchase and ethnic origin. Lower income groups tended to buy far less frequently and high income groups more frequently. For example, only 32 percent of the lowest income group bought eggs weekly and 53 percent once every 2 weeks; whereas in the \$8,000 to \$9,999 group, 78 percent bought on a weekly basis and only 9 percent on a biweekly basis.

### SIZE OF PURCHASE

The most frequent size of purchase of eggs in Honolulu was 2 dozen, with 36 percent of the homemakers purchasing that amount each time they went to the store (Table 4). Twenty-nine percent purchased only 1 dozen at a time and 20 percent purchased 3 dozen. Only 15 percent purchased 4 dozen or more at a time. There appeared to be no consistent relationship between size of purchase and income. There also appeared to be very little consistency between ethnic origin and size of purchase. There was some evidence, however, to indicate that the Caucasian and the Japanese predominant groups made small purchases to a greater extent than the other groups. The Hawaiian group made a higher percentage of large purchases. Size of family was undoubtedly one of the factors tending to explain these differences. The family size in the Hawaiian group, for example, was large in relation to other groups. The typical purchase in Kailua was somewhat larger than that in Honolulu.

### INCREASES IN EGG PURCHASES

One-third of the homemakers in Honolulu and one-fourth of those in Kailua indicated an increase in egg purchases during the survey year as compared with the previous year (Table 5). This is consistent with the increase in per capita consumption of eggs determined from actual disappearance of eggs in relation to population.<sup>5</sup> In Kailua, the percentage increase in egg consumption was considerably higher among the low income groups than among the high income groups, with a 47 percent increase for the income group of under \$4,000 and only 24 percent for the income group over \$10,000. This was undoubtedly due in large part to the differences in family structure among income groups. The lower income groups include a substantial proportion of young families where food requirements are increasing as the age and number of family members increase. In Honolulu the increase was almost the same, 23 percent, for all income groups except the \$4,000 to \$7,999 groups, in which 28 percent of the homemakers made more purchases. The survey data did not indicate significant differences in increases in purchases by ethnic groups in Honolulu. In Kailua, the percentage increase in purchases was considerably greater for the Japanese group than for the Caucasian group, with 41 percent for the former and 25 percent for the latter.

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<sup>5</sup>*Statistics of Hawaiian Agriculture*, Hawaii Crop and Livestock Reporting Service, Hawaii State Department of Agriculture, U. S. Department of Agriculture.

Table 5. Percentage of households buying more eggs during current year than during previous year, by ethnic and income groups

City and ethnic origin	Under \$4,000 (Percent)	\$4,000 to \$7,999 (Percent)	\$8,000 to \$9,999 (Percent)	\$10,000 and over (Percent)	All income groups (Percent)
<u>Honolulu</u>					
Caucasian	27	29	21	21	25
Caucasian predominant	21	33	18	27	27
Japanese	19	23	17	20	21
Japanese predominant	15	32	25	40	30
Chinese	28	22	32	20	24
Part Hawaiian <sup>a/</sup>	13	37	38	<u>b/</u>	26
Filipino	35	37	29	44	36
Miscellaneous	30	16	50	33	26
All groups	23	28	23	23	25
<u>Kailua</u>					
Caucasian	56	41	26	13	25
Caucasian predominant	<u>b/</u>	50	<u>b/</u>	29	41
Japanese	33	25	47	47	41
Miscellaneous <sup>c/</sup>	60	45	25	45	45
All groups	47	40	36	24	33

<sup>a/</sup> Including a very small and indeterminate number of Pure Hawaiians.

<sup>b/</sup> Sample too small for classification.

<sup>c/</sup> Including Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

## CONSUMER RESPONSE TO PRICE

In general, consumers were not sensitive to minor increases in the prices of eggs (Table 6). Responses to this question were generally consistent among various income and ethnic groups, with a few exceptions in which marked variations were noted.

Eighty-three and 79 percent of the homemakers in Honolulu and Kailua, respectively, indicated that they would purchase the same amount and grade of eggs in spite of a hypothesized 5-cent-per-dozen increase in price. Of the 16 percent of the households in Honolulu who would respond to



Table 6. Indicated effect of a 5-cent-per-dozen increase in price on egg purchases, by ethnic origin and income group

City and ethnic origin	Percent who would purchase less of same size					Percent who would purchase the same amount and size					Percent who would purchase a smaller size				
	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups
	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
<u>Honolulu</u>															
Caucasian	20	13	15	15	16	79	82	82	79	81	1	5	3	4	3
Caucasian predominant	9	15	27	7	14	91	73	64	93	80	b/	10	9	b/	6
Japanese	7	10	7	8	9	91	86	100	87	87	2	4	1	5	4
Japanese predominant	8	b/	13	7	5	92	97	88	87	93	b/	3	b/	7	3
Chinese	14	7	18	7	10	83	88	77	89	86	3	5	5	4	4
Part Hawaiian <sup>a/</sup>	3	24	21	22	20	86	67	75	65	72	10	9	4	13	9
Filipino	9	16	13	13	13	85	76	88	88	81	6	8	b/	b/	6
Miscellaneous	20	11	b/	b/	11	80	84	100	100	87	b/	5	b/	b/	2
All groups	13	13	13	11	12	85	82	84	84	83	3	6	3	5	4
<u>Kailua</u>															
Caucasian	33	16	9	12	14	56	74	87	81	79	11	10	4	7	8
Caucasian predominant	b/	b/	b/	b/	b/	b/	b/	b/	b/	95	b/	b/	b/	b/	b/
Japanese	0	33	13	16	18	100	67	80	84	80	b/	b/	7	b/	2
Miscellaneous <sup>c/</sup>	20	27	50	18	26	80	73	50	73	71	b/	b/	b/	9	2
All groups	21	21	14	12	16	74	75	80	82	79	5	4	5	6	5

<sup>a/</sup> Including a very small and indeterminate number of Pure Hawaiians.<sup>b/</sup> Sample too small for classification.<sup>c/</sup> Including Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

such an increase, 12 percent indicated they would buy less eggs and 4 percent indicated a smaller egg size would be purchased to offset the increase. In Kailua, of the 21 percent who indicated they would respond to a 5-cent-per-dozen increase in price, 16 percent would buy less and 5 percent would buy a smaller size.

Even with a 10-cent-per-dozen increase in the price of eggs, the majority of the consumers indicated they would continue to buy the same grade and quantity of eggs (Table 7). Seventy-seven percent in Honolulu and 58 percent in Kailua indicated that they would adhere to their present buying habits.

If a 10-cent-per-dozen increase were to occur, 17 percent of the Honolulu consumers indicated they would respond by purchasing less eggs and 6 percent would buy a smaller size. Kailua consumers tended to be somewhat more price conscious than their Honolulu counterparts, with 31 percent indicating they would buy less and 11 percent indicating they would buy a smaller size. Forty-seven percent of the Kailua families in the under \$4,000 income group and 38 percent in the \$4,000 to \$7,999 income category indicated they would buy less eggs, in comparison with 19 and 17 percent for the same income groups, respectively, in Honolulu.

Less than 1 percent of the consumers in both Honolulu and Kailua indicated that they would switch to lower priced mainland eggs in response to a 10-cent-per-dozen increase in the price of island eggs.

Consumers were about equally as insensitive to a 5-cent-per-dozen price decrease as to a 5-cent price increase, as would be expected for a commodity for which the price elasticity is known to be comparatively inelastic. Seventy-one percent in Honolulu and 75 percent in Kailua stated they would buy the same amount and grade of eggs regardless of a 5-cent-per-dozen price decrease (Table 8). Twenty-seven percent of all respondents in Honolulu and 24 percent of those in Kailua indicated they would buy more. However, 42 percent of the homemakers in the lower income group in Kailua indicated that they would buy more eggs in response to the price drop.

There was a somewhat stronger reaction to a hypothesized 10-cent-per-dozen decrease in price (Table 9). Thirty percent of the consumers in Honolulu and 41 percent of those in Kailua indicated that they would buy more eggs in response to a 10-cent price decrease. This still leaves a sizable majority, 64 and 58 percent for Honolulu and Kailua, respectively, who indicated that they would buy the same amount and grade.

The least significant response to a price decrease was by the Japanese ethnic group in the under \$4,000 income category. This group consists to a considerable extent of elderly Japanese people originally from Japan, where eggs did not constitute an important part of the diet. Only 9 percent of this group stated that they would buy more eggs if the price were lowered either 5 cents or 10 cents per dozen. Aside from this case there were very few variations in response among the different income and ethnic groups.

Less than 3 percent of the people indicated that they would buy larger eggs if the price fell either 5 cents or 10 cents per dozen. Except for a

Table 7. Indicated effect of a 10-cent-per-dozen increase in price on egg purchases, by ethnic origin and income group

City and ethnic origin	Percent who would purchase less of same size					Percent who would purchase the same amount and size					Percent who would purchase a smaller size				
	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups
	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
<u>Honolulu</u>															
Caucasian	26	20	20	20	21	71	75	75	75	74	3	5	5	3	4
Caucasian predominant	8	18	27	7	17	82	68	55	93	74	b/	13	19	b/	8
Japanese	7	14	12	13	13	85	80	84	79	81	7	7	14	7	6
Japanese predominant	15	b/	13	7	6	85	94	88	87	90	b/	6	b/	7	5
Chinese	23	12	32	13	17	76	76	64	83	77	3	10	5	4	6
Part Hawaiian <sup>a/</sup>	7	26	25	30	23	83	66	63	57	67	10	9	13	17	11
Filipino	18	20	25	13	19	73	71	75	88	74	9	8	b/	b/	7
Miscellaneous	50	21	17	33	29	30	74	83	67	13	2	5	b/	b/	8
All groups	19	17	19	16	17	76	76	76	78	76	6	7	5	5	6
<u>Kailua</u>															
Caucasian	67	39	17	28	31	33	45	74	59	57	b/	16	9	12	11
Caucasian predominant	50	0	0	29	18	b/	b/	b/	71	77	b/	b/	b/	b/	b/
Japanese	b/	42	20	16	22	b/	58	53	68	63	b/	b/	27	10	14
Miscellaneous <sup>c/</sup>	40	43	50	36	93	60	46	50	45	48	b/	9	b/	18	10
All groups	47	38	21	27	31	54	52	64	60	58	b/	10	14	12	11

a/ Including a very small and indeterminate number of Pure Hawaiians.

b/ Sample too small for classification.

c/ Including Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

Table 8. Indicated effect of a 5-cent-per-dozen decrease in price on egg purchases, by ethnic origin and income group

City and ethnic origin	Percent who would purchase more of same size					Percent who would purchase the same amount and size					Percent who would purchase a larger size				
	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups
	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
<u>Honolulu</u>															
Caucasian	28	31	25	21	26	71	68	75	79	73	1	2	b/	b/	1
Caucasian predominant	41	30	36	13	31	55	60	55	80	61	5	10	9	7	8
Japanese	9	22	25	21	21	87	75	74	78	77	4	3	1	2	3
Japanese predominant	23	16	13	7	15	77	81	88	87	82	b/	3	b/	8	3
Chinese	21	31	36	24	28	76	69	64	76	72	3	3	b/	b/	2
Part Hawaiian <sup>a/</sup>	59	46	50	48	49	35	51	50	52	48	7	2	b/	b/	3
Filipino	42	33	25	50	37	55	65	75	50	61	3	2	b/	b/	2
Miscellaneous	20	21	33	0	21	80	74	67	100	76	b/	5	b/	b/	3
All groups	29	29	29	23	27	68	69	70	76	71	3	3	1	1	2
<u>Kailua</u>															
Caucasian	67	29	4	18	21	33	68	96	79	76	b/	3	b/	4	3
Caucasian predominant	b/	b/	b/	b/	18	b/	b/	b/	b/	82	b/	b/	b/	b/	b/
Japanese	b/	25	20	26	22	b/	75	80	74	78	b/	b/	b/	5	2
Miscellaneous <sup>c/</sup>	40	32	50	36	36	60	68	50	55	62	b/	b/	b/	9	2
All groups	42	31	14	20	24	58	68	86	77	74	b/	1	b/	5	3

<sup>a/</sup> Including a very small and indeterminate number of Pure Hawaiians.<sup>b/</sup> Sample too small for classification.<sup>c/</sup> Including Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

Table 9. Indicated effect of a 10-cent-per-dozen decrease in price on egg purchases, by ethnic origin and income group

City and ethnic origin	Percent who would purchase more of same size					Percent who would purchase the same amount and size					Percent who would purchase a larger size				
	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups
	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
<u>Honolulu</u>															
Caucasian	38	34	26	23	31	61	63	74	77	68	2	2	b/	b/	1
Caucasian predominant	41	35	36	13	33	55	55	55	80	59	5	10	10	7	8
Japanese	9	25	27	25	24	85	72	72	74	74	6	3	1	2	2
Japanese predominant	23	16	25	7	16	77	81	75	87	81	b/	3	b/	7	3
Chinese	21	22	41	26	29	76	64	59	74	69	3	4	b/	b/	2
Part Hawaiian <sup>a/</sup>	59	48	46	52	50	34	50	54	48	47	7	2	b/	b/	3
Filipino	42	35	38	63	40	55	61	63	38	57	3	4	b/	b/	3
Miscellaneous	30	26	50	b/	29	70	68	50	100	68	b/	5	b/	b/	3
All groups	32	31	32	26	30	64	65	68	73	64	3	3	1	1	2
<u>Kailua</u>															
Caucasian	67	39	4	31	31	33	58	96	66	67	b/	3	b/	3	2
Caucasian predominant	b/	b/	b/	b/	29	b/	b/	b/	b/	71	b/	b/	b/	b/	b/
Japanese <sup>c/</sup>	b/	25	20	74	55	b/	75	73	25	43	b/	b/	b/	2	1
Miscellaneous	40	50	50	36	45	60	50	50	55	52	b/	b/	b/	9	2
All groups	42	41	18	47	41	52	58	20	50	58	b/	1	b/	3	2

a/ Including a very small and indeterminate number of Pure Hawaiians.

b/ Sub-sample too small for classification.

c/ Including Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

small number of Kailua households, none of the consumers indicated that they would switch to island eggs if the price were decreased 5 cents or 10 cents per dozen. This is, of course, largely due to the fact that mainland imports presently constitute only a small percentage of Hawaii's egg supply.

A correlation analysis indicated no linear relationship between per capita consumption and price of eggs for the 10-year period from 1954-1964. Any changes in per capita consumption in relation to price were obscured by the large annual increase in per capita consumption resulting from factors other than price such as changes in ethnic composition, age, income, and egg promotion.

### ISLAND VERSUS MAINLAND EGGS

Island eggs have a decidedly larger patronage than mainland eggs in both Honolulu and Kailua (Table 10). Eighty-nine percent of the Honolulu homemakers and 86 percent of those in Kailua preferred island eggs. These indicated preferences are closely in line with the actual proportion of island versus mainland eggs sold in the Honolulu market. Sales consisted of 86 percent island-produced eggs, 10 percent mainland eggs, and 4 percent foreign imports during the year of the consumer survey. During 1964, island egg production captured 93 percent of the market in metropolitan Honolulu in spite of the fact that Grade A large eggs produced locally were wholesaling for an annual average price of 62 cents per dozen as compared with 53.1 cents per dozen for imports from the U. S. Mainland. The comparative prices for Grade A medium eggs for the same year were 53.5 cents for island-produced eggs and 47.1 cents for mainland imports. The real difference in prices was not as great as indicated, however, inasmuch as the prices of island eggs were quoted for cartons and the mainland imports quoted uncartoned in cases. Homemakers of Japanese ancestry in Honolulu showed a somewhat greater preference for island eggs than did the other ethnic groups. Ninety-six percent of the Honolulu respondents of Japanese ancestry purchased only island eggs.

About 5 percent of the households in both cities purchased mainland eggs only. A closer examination of response by the different ethnic groups showed a range from less than 1 percent of the Japanese in Honolulu to 9 percent of the Caucasians in Honolulu using solely mainland eggs.

One would expect a larger number of people in the lower income groups to purchase the cheaper mainland eggs. Yet the only group to do so was the Caucasian group of under \$4,000 income in Honolulu. Twenty-one percent of this group purchased only mainland eggs. In Kailua, Caucasians in the under \$4,000 category did not follow this pattern.

Six and 9 percent of the homemakers in Honolulu and Kailua, respectively, purchased both mainland and island eggs. Those doing so, usually bought island eggs for table use and mainland eggs for cooking and baking. Ten and 17 percent of the people in the lower two income groups purchased both kinds of eggs, while only 7 and 5 percent of the people in the upper two income groups purchased both mainland and island eggs. The percentages of respondents within the ethnic groups using both island and

Table 10. Percentage of purchase of island versus mainland eggs, by ethnic origin and income group

City and ethnic origin	Percent who purchased island eggs					Percent who purchased mainland eggs					Percent who purchased both island and mainland eggs				
	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups
	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
<u>Honolulu</u>															
Caucasian	67	85	85	91	82	21	7	7	4	9	13	9	9	6	9
Caucasian predominant	82	92	91	93	90	5	3	b/	7	4	14	5	9	b/	7
Japanese	96	97	97	96	97	b/	1	1	1	1	4	2	2	3	3
Japanese predominant	52	93	b/	93	94	b/	3	0	0	2	8	3	b/	7	5
Chinese	97	86	91	89	90	b/	5	0	6	4	3	9	9	6	7
Part Hawaiian <sup>a/</sup>	68	84	b/	88	80	10	4	0	b/	5	23	12	b/	13	15
Filipino	90	93	96	78	91	3	2	4	9	4	7	5	b/	13	6
Miscellaneous	80	63	b/	100	76	b/	11	b/	b/	5	20	26	b/	b/	19
All groups	81	91	93	92	89	9	3	3	3	4	11	6	5	5	6
<u>Kailua</u>															
Caucasian	89	77	91	93	89	b/	10	4	5	5	11	13	4	3	6
Caucasian predominant	b/	67	b/	86	83	b/	b/	b/	b/	b/	b/	33	b/	14	18
Japanese	b/	67	87	90	84	b/	b/	b/	5	2	b/	3	13	5	14
Miscellaneous <sup>c/</sup>	80	91	50	82	83	b/	b/	b/	9	7	20	9	b/	9	10
All groups	90	79	86	90	86	b/	4	7	5	5	11	17	7	5	9

<sup>a/</sup> Including a very small and indeterminate number of Pure Hawaiians.<sup>b/</sup> Sub-sample too small for classification.<sup>c/</sup> Including Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

mainland eggs ranged from a low of 3 percent for the Honolulu Japanese to a high of 19 percent for the Honolulu Miscellaneous category.

### **REASONS FOR PURCHASING ISLAND EGGS**

Fifty-six percent of the consumers in Honolulu and 58 percent of those in Kailua noted freshness as the primary reason for buying only island eggs (Table 11). Variations in responses between the different ethnic groups were generally negligible, with the exception that Caucasians in both Honolulu and Kailua gave more emphasis to freshness in deciding to purchase island eggs (64 percent) than did the other groups. A substantial number of these Caucasian respondents were originally from the Mainland. Many of them asked interviewers why the local dairies did not deliver eggs that were "really fresh" along with their normal dairy products, as is done by some mainland dairies. This prior use of fresh (non-cold storage) eggs on the Mainland may have caused the relatively high emphasis given to freshness as a reason for purchasing island eggs by these respondents.

Roughly 13 and 16 percent of the people in Honolulu and Kailua, respectively, said they chose island eggs because they tasted better. They attributed the better taste of island eggs to the fact that they are not stored for as long a period of time as mainland eggs. Responses of the different income groups within each ethnic category were inconsistent and no important differences between groups were noted.

### **REASONS FOR PURCHASING MAINLAND EGGS**

Fifty-five percent of the people in Honolulu and 64 percent of those in Kailua who indicated that they purchased only mainland eggs said it was due to lower price (Table 12). Whereas there was generally a consistency among ethnic groups in indicating price as the primary reason for purchasing mainland eggs, responses by income groups within each ethnic group showed considerable variation.

There was a definite relationship between income level and consumer preference for mainland eggs, due to lower price. Sixty-two percent of those in the income group under \$4,000 indicated lower price as the primary reason for purchasing mainland eggs, whereas only 38 percent of those in the income group of \$10,000 and over indicated this as their reason for doing so.

Superior taste was the primary reason indicated by 12 percent of the respondents in Honolulu and 9 percent in Kailua for purchasing only mainland eggs. There were no significant differences in these figures among the various income and ethnic groups.

A small number of respondents indicated superior taste or convenience as the major reason for purchasing mainland eggs. Habit was the indicated reason of 3 percent of the people in Honolulu and 9 percent of the people in Kailua. However, the majority of the Kailua respondents in this category were in the Caucasian ethnic group, suggesting that their high response was due to purchasing patterns formed on the Mainland.



Table 11. Percentage of consumers buying island eggs for indicated reasons, by ethnic origin and income group

City and ethnic origin	Fresher					Superior Taste					Habit				
	Under \$4,000 (Percent)	\$4,000 to \$7,999 (Percent)	\$8,000 to \$9,999 (Percent)	\$10,000 and over (Percent)	All income groups (Percent)	Under \$4,000 (Percent)	\$4,000 to \$7,999 (Percent)	\$8,000 to \$9,999 (Percent)	\$10,000 and over (Percent)	All income groups (Percent)	Under \$4,000 (Percent)	\$4,000 to \$7,999 (Percent)	\$8,000 to \$9,999 (Percent)	\$10,000 and over (Percent)	All income groups (Percent)
<u>Honolulu</u>															
Caucasian	65	62	61	66	64	8	19	21	19	17	5	2	2	0	2
Caucasian predominant	38	54	36	71	51	20	25	27	7	21	5	3	4	0	4
Japanese	64	61	50	60	59	9	18	24	12	16	9	4	4	8	5
Japanese predominant	38	49	56	36	45	31	21	11	7	19	15	9	b/	29	13
Chinese	54	58	57	51	55	18	20	19	19	19	7	6	b/	4	5
Part Hawaiian <sup>a/</sup>	41	43	50	47	44	23	26	16	21	24	4	1	4	11	3
Filipino	46	43	33	43	43	23	33	22	14	28	b/	b/	b/	b/	0
Miscellaneous	45	58	60	67	55	22	25	b/	b/	18	11	b/	b/	b/	3
All groups	54	56	53	59	56	15	21	21	15	19	6	3	3	5	4
<u>Kailua</u>															
Caucasian	25	56	81	67	64	b/	12	10	16	13	b/	12	b/	b/	3
Caucasian predominant	b/	60	50	83	60	50	20	50	17	27	b/	20	b/	b/	7
Japanese	50	60	54	41	50	b/	20	39	29	28	b/	b/	8	6	5
Miscellaneous <sup>c/</sup>	25	52	100	40	49	25	29	b/	40	30	25	b/	b/	b/	3
All groups	28	56	71	60	58	12	20	21	21	19	6	7	3	1	3

City and ethnic origin	Convenience					Other				
	Under \$4,000 (Percent)	\$4,000 to \$7,999 (Percent)	\$8,000 to \$9,999 (Percent)	\$10,000 and over (Percent)	All income groups (Percent)	Under \$4,000 (Percent)	\$4,000 to \$7,999 (Percent)	\$8,000 to \$9,999 (Percent)	\$10,000 and over (Percent)	All income groups (Percent)
<u>Honolulu</u>										
Caucasian	3	1	0	1	1	20	17	16	15	17
Caucasian predominant	0	3	0	0	1	38	16	27	21	24
Japanese	2	2	0	2	1	15	16	23	19	18
Japanese predominant	b/	b/	b/	b/	b/	15	21	33	29	23
Chinese	4	b/	b/	4	2	18	17	24	23	20
Part Hawaiian <sup>a/</sup>	b/	b/	4	b/	1	33	29	25	21	28
Filipino	b/	b/	b/	14	1	32	24	45	29	29
Miscellaneous	11	b/	b/	b/	3	11	17	40	33	21
All groups	2	1	1	2	1	22	19	23	19	20
<u>Kailua</u>										
Caucasian	25	b/	b/	2	3	50	20	10	16	18
Caucasian predominant	b/	b/	b/	b/	b/	b/	b/	b/	b/	7
Japanese	b/	b/	b/	6	2	b/	20	b/	18	16
Miscellaneous <sup>c/</sup>	b/	2/	b/	b/	b/	25	19	b/	20	19
All groups	11	b/	b/	2	2	44	18	5	16	17

<sup>a/</sup> Including a very small and indeterminate number of Pure Hawaiians.

<sup>b/</sup> Sample too small to classify.

<sup>c/</sup> Including Japanese Predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

Table 12. Percentage of respondents indicating various reasons for purchase of mainland eggs, by ethnic origin and income group

City and ethnic origin	Cheaper					Superior Taste					Habit				
	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups
	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
<u>Honolulu</u>															
Caucasian	60	22	b/	b/	41	15	b/	25	33	16	5	b/	b/	b/	3
Caucasian predominant	b/	b/	b/	b/	75	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/
Japanese	b/	b/	b/	b/	60	b/	b/	b/	b/	20	b/	b/	b/	b/	b/
Japanese predominant	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/
Chinese	b/	75	b/	67	71	b/	b/	b/	b/	b/	b/	b/	b/	33	14
Part Hawaiian <sup>a/</sup>	b/	b/	b/	b/	67	b/	b/	b/	b/	34	b/	b/	b/	b/	b/
Filipino	67	b/	b/	b/	80	33	b/	b/	b/	20	b/	b/	b/	b/	b/
Miscellaneous	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/
All groups	62	61	43	38	55	16	b/	43	23	15	4	b/	b/	8	3
<u>Kailua</u>															
Caucasian	b/	b/	b/	33	71	b/	b/	b/	b/	b/	b/	b/	b/	33	14
Japanese	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/
Miscellaneous <sup>c/</sup>	b/	b/	b/	b/	67	b/	b/	b/	b/	33	b/	b/	b/	b/	b/
All groups	b/	b/	67	40	64	b/	b/	33	b/	b/	b/	b/	b/	b/	20

City and ethnic origin	Convenience					Other				
	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups
	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
<u>Honolulu</u>										
Caucasian	5	b/	b/	b/	3	15	78	25	67	38
Caucasian predominant	b/	b/	b/	b/	b/	b/	b/	b/	b/	25
Japanese	b/	b/	b/	b/	b/	b/	b/	b/	b/	20
Japanese predominant	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/
Chinese	b/	b/	b/	b/	b/	b/	25	b/	b/	14
Part Hawaiian <sup>a/</sup>	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/
Filipino	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/
Miscellaneous	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/
All groups	4	b/	b/	b/	1	15	39	14	31	26
<u>Kailua</u>										
Caucasian	b/	b/	b/	b/	b/	b/	b/	b/	33	14
Japanese	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/
Miscellaneous <sup>c/</sup>	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/
All groups	9	b/	b/	b/	b/	b/	b/	b/	40	18

a/ Including a very small and indeterminate number of Pure Hawaiians.

b/ Sample too small to classify.

c/ Including Caucasian predominant, Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

## **SOURCES OF EGGS BY TYPE OF VENDOR**

Forty-three percent of the respondents in Honolulu and 56 percent of those in Kailua indicated they purchased their eggs from large supermarket chains (Table 13). The larger figure for Kailua respondents may be attributed to the fact that Kailua is a newer community and the majority of grocery vendors in Kailua are chain supermarkets.

No significant differences could be determined when these figures were broken down by ethnic groups. A relationship did appear when the figures were broken down by income groups, with a larger percentage of respondents in the higher income groups in both Honolulu and Kailua purchasing their eggs from chain stores.

Independent supermarkets were the indicated source of eggs for 20 percent of the people in Honolulu and 15 percent of the people in Kailua. This would be due to the fact that there are more independent supermarkets in Honolulu.

Eight percent of the people queried in Honolulu and 18 percent of those in Kailua said they purchased their eggs from commissaries.

It is significant to note that respondents in each lower income group were much more likely to purchase from the commissary than those in the next higher income group. In fact, none of the upper two income groups of any of the ethnic categories in either Honolulu or Kailua indicated any purchase of eggs through the commissary with the exception of the Caucasian group in both areas and the predominantly Caucasian group in Kailua. The Caucasian group in both Honolulu and Kailua constitutes the majority of the military personnel and was the only group indicating commissary purchases in all four income categories. Fourteen percent of the respondents in Honolulu and 5 percent of those in Kailua indicated they purchased their eggs directly from producers.

## **CONSISTENCY OF PLACE OF PURCHASE**

The majority of respondents in both areas indicated they purchased their eggs from a single source. Seventy-six percent of the people in Honolulu and 84 percent of those in Kailua bought most of their eggs consistently from one place (Table 14). The probable reason for the difference in the percentages for Honolulu and Kailua is that there are more sources readily available to consumers in Honolulu than in Kailua, thus increasing the likelihood that the purchaser may buy eggs from more than one source.

There seems to be a tendency towards increased purchases from more than one source with increased income. In Honolulu, 22 percent of the people in the lowest income group indicated purchasing their eggs from more than one source, and 25 percent of the highest income group did so. In Kailua, 11 percent of the lowest income group and 19 percent of the highest income group bought eggs from more than one place. This reasserts the fact that the lower income groups are somewhat less mobile in their purchase patterns. The higher income groups are less price conscious and are not as concerned as to where they buy their eggs.

Table 13. Percentage of respondents indicating various sources of eggs, by ethnic origin and income group

City and ethnic origin	Independent small groceries					Independent supermarkets					Chain stores				
	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups
	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
<u>Honolulu</u>															
Caucasian	11	7	5	17	8	13	20	21	19	18	27	32	53	56	40
Caucasian predominant	4	10	9	13	9	28	15	18	27	21	32	53	36	47	44
Japanese	13	10	9	10	10	25	21	17	22	21	45	46	51	49	47
Japanese predominant	8	20	25	b/	13	8	23	13	19	18	46	40	38	56	45
Chinese	3	5	4	9	6	17	23	22	17	20	33	33	57	41	39
Part Hawaiian <sup>a/</sup>	22	8	4	4	10	22	20	28	17	21	31	45	48	48	43
Filipino	15	10	13	b/	11	12	20	b/	b/	14	24	36	b/	b/	34
Miscellaneous	10	16	14	33	15	30	32	29	b/	28	10	16	57	33	23
All groups	11	9	8	8	9	18	21	17	19	20	32	40	51	b/	43
<u>Kailua</u>															
Caucasian	b/	b/	4	b/	1	20	9	4	18	13	b/	47	64	65	6
Caucasian predominant	b/	b/	b/	b/	6	b/	b/	33	43	22	b/	83	33	43	b/
Japanese	b/	8	b/	5	4	25	8	31	5	15	25	46	56	84	62
Miscellaneous <sup>c/</sup>	20	b/	b/	b/	2	b/	17	25	18	16	40	39	75	73	51
All groups	10	1	2	1	2	14	11	17	17	15	14	47	60	68	56

City and ethnic origin	Producers					Commissaries					Other				
	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups
	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
<u>Honolulu</u>															
Caucasian	4	10	2	7	7	40	25	19	8	23	5	7	b/	4	4
Caucasian predominant	16	8	18	7	11	8	b/	b/	b/	2	12	15	18	7	13
Japanese	7	16	17	12	14	4	1	b/	b/	1	7	6	7	7	7
Japanese predominant	8	10	25	19	13	23	7	b/	b/	8	8	b/	b/	6	3
Chinese	27	16	17	24	21	b/	3	b/	b/	1	20	20	b/	9	13
Part Hawaiian <sup>a/</sup>	25	14	20	26	19	b/	4	b/	b/	2	b/	9	b/	4	6
Filipino	24	18	25	b/	23	21	4	b/	b/	9	3	12	13	b/	8
Miscellaneous	20	15	b/	33	15	30	5	b/	b/	10	b/	16	b/	b/	8
All groups	13	14	13	14	14	19	7	5	2	8	7	9	4	6	7
<u>Kailua</u>															
Caucasian	10	b/	8	2	3	70	38	20	13	24	b/	6	b/	3	3
Caucasian predominant	b/	17	b/	b/	6	b/	b/	b/	14	6	b/	b/	33	b/	11
Japanese	b/	23	6	10	10	b/	15	b/	b/	8	b/	b/	6	b/	2
Miscellaneous <sup>c/</sup>	b/	13	b/	b/	7	40	22	b/	b/	16	b/	9	b/	9	7
All groups	5	10	6	2	5	52	26	10	10	18	5	5	4	3	4

<sup>a/</sup> Including a very small and indeterminate number of Pure Hawaiians.

<sup>b/</sup> Sample too small to classify.

<sup>c/</sup> Including Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

Table 14. Percentage of eggs purchased at one place versus more than one place, by ethnic origin and income group

City and ethnic origin	Purchased at same place					Purchased at more than one place				
	Under \$4,000 (Percent)	\$4,000 to \$7,999 (Percent)	\$8,000 to \$9,999 (Percent)	\$10,000 and over (Percent)	All income groups (Percent)	Under \$4,000 (Percent)	\$4,000 to \$7,999 (Percent)	\$8,000 to \$9,999 (Percent)	\$10,000 and over (Percent)	All income groups (Percent)
<u>Honolulu</u>										
Caucasian	89	84	86	83	85	11	16	16	17	15
Caucasian predominant	78	67	91	73	74	22	33	9	27	26
Japanese	81	78	74	73	77	19	22	26	27	23
Japanese predominant	69	93	88	67	82	31	7	12	33	18
Chinese	48	67	55	74	64	52	33	45	26	36
Part Hawaiian <sup>a/</sup>	72	65	75	75	69	28	35	25	25	31
Filipino	69	68	71	61	68	31	32	29	39	32
Miscellaneous	b/	58	b/	67	76	b/	42	b/	33	24
All groups	78	76	76	75	76	22	24	24	25	24
<u>Kailua</u>										
Caucasian	89	88	74	79	81	11	12	26	21	19
Caucasian predominant	b/	b/	b/	b/	94	b/	b/	b/	b/	6
Japanese	b/	83	80	89	86	b/	17	20	11	14
Miscellaneous <sup>c/</sup>	b/	91	b/	64	86	b/	9	b/	36	14
All groups	89	89	80	81	84	11	11	20	19	16

a/ Including a very small and indeterminate number of Pure Hawaiians.

b/ Sample too small to classify.

c/ Including Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

About one-third of the Chinese, Hawaiian, and Filipino groups in Honolulu bought their eggs from more than one source. The Caucasian respondents in Kailua were least likely to utilize more than one source of purchase (6 percent). The figures for the other ethnic groups were relatively consistent with overall averages.

### PURCHASE BY GRADE OF EGGS

Seventy-three percent of the respondents in Honolulu but only 49 percent of those in Kailua said they purchased mostly Grade A large eggs (Table 15). Twenty-one percent in Honolulu and 43 percent in Kailua indicated that they usually purchased Grade A medium eggs.

Only 2 percent of the respondents in both Honolulu and Kailua indicated purchases of Grade A small eggs. The actual proportion of sales represented by each grade according to the USDA-State Crop Reporting Service for the year of the survey was 63 percent Grade A large, 22 percent Grade A medium, 8 percent Grade A small, and 7 percent Grade B, etc. However, these data included sales to restaurants, for manufacturing, etc., and would include a higher percentage of lower grades and smaller eggs than purchased directly by consumers. The Filipinos in Honolulu and homemakers in the Miscellaneous group in Kailua, including Filipinos, were most likely to purchase small eggs, with about 7 percent in each area purchasing primarily small eggs. The Caucasian and predominantly Caucasian groups in Kailua were least likely to purchase small eggs.

Four percent of the respondents in Honolulu and 6 percent of those in Kailua indicated they purchased other than Grade A eggs.

Family income, according to the survey data, had little effect on size of eggs purchased either in Honolulu or Kailua.

Table 15. Percentage of purchases of each grade of eggs, by ethnic origin and income group

City and ethnic origin	Grade A - Large					Grade A - Medium					Grade A - Small				
	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups
	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
<u>Honolulu</u>															
Caucasian	72	69	74	76	72	23	25	23	19	22	1	3	3	2	2
Caucasian predominant	67	56	64	80	64	33	34	18	20	30	b/	7	b/	b/	3
Japanese	75	80	67	83	78	20	15	25	12	17	2	1	1	1	1
Japanese predominant	77	77	88	69	77	8	13	b/	25	13	b/	3	b/	b/	2
Chinese	68	76	82	71	74	16	14	14	25	18	3	3	b/	b/	2
Part Hawaiian <sup>a/</sup>	67	67	75	73	69	23	25	21	27	25	7	3	4	b/	4
Filipino	49	65	56	75	60	33	30	33	13	30	9	4	11	13	7
Miscellaneous	80	65	75	67	71	10	30	25	33	24	10	b/	b/	b/	3
All groups	69	73	71	77	73	23	21	22	18	21	3	3	2	1	2
<u>Kailua</u>															
Caucasian	56	47	48	45	47	44	b/	48	48	48	b/	b/	b/	1	1
Caucasian predominant	b/	57	b/	67	60	b/	43	b/	22	35	b/	b/	b/	b/	b/
Japanese	33	58	56	37	48	67	42	28	42	39	b/	b/	6	5	4
Miscellaneous <sup>c/</sup>	80	46	b/	64	b/	20	32	b/	36	38	b/	14	b/	b/	7
All groups	53	49	49	47	49	47	43	43	44	43	b/	4	2	2	2

City and ethnic origin	Other				
	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups
	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
<u>Honolulu</u>					
Caucasian	4	4	b/	4	3
Caucasian predominant	b/	2	18	b/	3
Japanese	4	4	7	4	4
Japanese predominant	15	7	13	6	9
Chinese	13	6	5	3	6
Part Hawaiian <sup>a/</sup>	3	5	b/	b/	3
Filipino	9	2	b/	b/	4
Miscellaneous	b/	5	b/	b/	5
All groups	6	4	4	3	4
<u>Kailua</u>					
Caucasian	b/	3	4	6	4
Caucasian predominant	b/	b/	b/	11	5
Japanese	b/	b/	11	16	10
Miscellaneous <sup>c/</sup>	b/	9	b/	b/	5
All groups	b/	4	6	7	6

a/ Including a very small and indeterminate number of Pure Hawaiians.

b/ Sample too small to classify.

c/ Including Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

# **PURCHASES OF LOWER GRADE EGGS AS INGREDIENTS FOR COOKING OR BAKING**

Six percent of the Honolulu egg consumers and 7 percent of those in Kailua indicated they purchased a lower grade of eggs for cooking or baking purposes (Table 16). Although one might expect the lower income groups to purchase more lower grade eggs for cooking or baking, the survey data indicated just the opposite. Only 3 percent of the lower income respondents in Honolulu and none of those in Kailua indicated they did so. Partially accounting for this would be the fact that a substantial percentage of lower

Table 16. Percentage of households buying a lower grade of eggs for baking and cooking, by ethnic origin and income group

City and ethnic origin	Households buying lower grade				
	Under \$4,000 (Percent)	\$4,000 to \$7,999 (Percent)	\$8,000 to \$9,999 (Percent)	\$10,000 and over (Percent)	All income groups (Percent)
<u>Honolulu</u>					
Caucasian	2	4	3	5	4
Caucasian predominant	4	2	0	0	2
Japanese	2	7	4	6	6
Japanese predominant	0	6	0	0	3
Chinese	7	9	14	9	9
Part Hawaiian <sup>a/</sup>	3	6	25	0	6
Filipino	7	2	21	13	8
Miscellaneous	10	5	33	0	10
All groups	3	6	8	6	6
<u>Kailua</u>					
Caucasian	0	6	4	3	4
Caucasian predominant	0	17	0	0	6
Japanese	0	17	20	11	14
Miscellaneous <sup>b/</sup>	0	14	0	0	7
All groups	0	11	9	4	7

<sup>a/</sup> Including a very small and indeterminate number of Pure Hawaiians.

<sup>b/</sup> Including Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

income respondents in Kailua did their shopping at commissaries, where lower grade eggs were not sold, and where prices of Grade A eggs were low enough to make it not worth their while to shop for lower grade eggs at other sources in the hope of obtaining a lower price.

### COMPLAINTS ABOUT EGGS

Most of the respondents were satisfied with the eggs they had purchased. Only 6 percent in Honolulu and 10 percent in Kailua indicated any complaints (Table 17). There was a tendency in both areas for the percentage of complaints to increase with increases in income. Complaints were also more numerous among Caucasians than among the other ethnic groups.

Table 17. Percentage of households with complaints on condition of eggs, by ethnic origin and income group

City and ethnic origin	Under \$4,000 (Percent)	\$4,000 to \$7,999 (Percent)	\$8,000 to \$9,999 (Percent)	\$10,000 and over (Percent)	All income groups (Percent)
<u>Honolulu</u>					
Caucasian	5	5	7	11	7
Caucasian predominant	5	0	0	7	2
Japanese	2	6	7	9	7
Japanese predominant	0	3	0	0	2
Chinese	14	3	9	4	6
Part Hawaiian <sup>a/</sup>	3	2	13	0	3
Filipino	7	4	8	4	5
Miscellaneous	0	21	0	0	11
All groups	5	5	7	8	6
<u>Kailua</u>					
Caucasian	0	10	4	16	12
Japanese	0	8	13	16	12
Miscellaneous <sup>b/</sup>	0	5	0	9	5
All groups	0	7	7	14	10

<sup>a/</sup> Including a very small and indeterminate number of Pure Hawaiians.

<sup>b/</sup> Including Caucasian predominant, Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.



Of the various complaints registered with respect to quality of eggs, none of which were very significant individually, 2 percent of the respondents indicated that the eggs they purchased were frequently spoiled and the same percentage indicated that the size of the eggs in the carton was not consistent with the label (Table 18). About 1 percent of the population surveyed complained about cracked shells and lack of firmness in the yolks. Less than 1 percent indicated that the white was not firm or otherwise of poor quality, that the taste was bad, or that the colors of the eggs were mixed. Numerous minor reasons made up the remaining 2 percent of the complaints.

The important factor to note here is that the most frequently mentioned faults could be directly attributable to poor handling on the part of the processor, and not to initial defects in the eggs. Poor handling, including spoiled eggs, eggs of the wrong size, cracked eggs, or eggs of mixed colors, was responsible for complaints on the part of about 5 percent of the egg purchasers, while complaints which could be attributed to interior defects in the eggs were registered by less than 2 percent. The latter could also, of course, be eliminated through improved grading.

Table 18. Percentage of consumers indicating various types of complaints

City and ethnic origin	None	Taste bad	Spoiled	Cracked	Wrong size	Mixed colors	Yolk not firm	White bad	Other
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
<b>Honolulu</b>									
Caucasian	93	0	2	0.2	2	0	1	1	0.2
Caucasian predominant	98	0	1	0	0	0	1	0	0
Japanese	94	0	1	1	2	0	2	0	4
Japanese predominant	99	0	0	2	0	0	0	0	0
Chinese	94	0	1	1	1	0	2	0	1
Part Hawaiian <sup>a/</sup>	95	0	1	3	1	0	0	0	0
Filipino	97	0	2	0	1	0	0	0	0
Miscellaneous	90	0	5	0	0	0	5	0	0
<b>Kailua</b>									
Caucasian	89	2	4	3	1	0	0	2	0
Caucasian predominant	100	0	0	0	0	0	0	0	0
Japanese	88	0	4	0	4	0	2	2	0
Miscellaneous <sup>b/</sup>	95	0	2	2	0	0	0	0	0
<b>City and income group</b>									
<b>Honolulu</b>									
Under \$4,000	95	0	2	1	1	0	1	0	0
\$4,000 to \$7,999	95	0	0.1	0.1	0.1	0	0.1	0	0
\$8,000 to \$9,999	93	0	2	1	2	0	1	0	0.4
\$10,000 and over	92	0	2	1	2	0	2	1	1
<b>Kailua</b>									
Under \$4,000	90	0	0	0	0	11	0	0	0
\$4,000 to \$7,999	93	0	4	3	0	0	0	0	0
\$8,000 to \$9,999	93	2	2	0	2	0	0	0	0
\$10,000 and over	86	2	4	3	2	0	1	3	0
<b>Honolulu All groups</b>	94	0	2	1	2	0	1	0.2	0.2
<b>Kailua All groups</b>	90	1	3	2	1	0.4	0.4	1	0

<sup>a/</sup> Including a very small and indeterminate number of Pure Hawaiians.

<sup>b/</sup> Including Japanese Predominant, Chinese, Part Hawaiian and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

## USES OF EGGS FOR DIRECT CONSUMPTION

In both Honolulu and Kailua, most of the eggs consumed by the respondents were served as table eggs, and not used as ingredients in other dishes. Seventy-eight percent of the eggs purchased in Honolulu and 72 percent of those consumed in Kailua were served as table eggs (Table 19). Conversely, 22 percent of the eggs in Honolulu and 28 percent of those in Kailua were used as ingredients in other dishes.

Table 19. Percentage of eggs used as table eggs in direct consumption, by ethnic origin and income group

City and ethnic origin	Under \$4,000 (Percent)	\$4,000 to \$7,999 (Percent)	\$8,000 to \$9,999 (Percent)	\$10,000 and over (Percent)	All income groups (Percent)
<u>Honolulu</u>					
Caucasian	76	73	74	75	75
Caucasian predominant	80	79	88	73	80
Japanese	79	79	79	78	79
Japanese predominant	76	74	69	78	75
Chinese	83	74	74	81	78
Part Hawaiian <sup>a/</sup>	82	83	78	75	80
Filipino	78	81	70	84	80
Miscellaneous	80	78	73	91	79
All groups	79	78	77	78	78
<u>Kailua</u>					
Caucasian	79	68	73	73	73
Caucasian predominant	71	75	82	78	77
Japanese	77	73	73	72	73
Miscellaneous <sup>b/</sup>	72	68	85	69	69
All groups	77	69	74	73	72

<sup>a/</sup> Including a very small and indeterminate number of Pure Hawaiians.

<sup>b/</sup> Including Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

Differences in percentage of respondents using eggs for table purposes versus other uses were not significant by ethnic groups.

In general, persons in the higher income groups used slightly smaller percentages of their eggs for table purposes than those in the lower income levels. However, the differences in percentages were small and no significant reasons for the differences could be determined.

### **METHODS OF PREPARING EGGS FOR TABLE USE**

Consumers were queried as to the various methods they used to prepare their eggs for table use (Table 20). The most common forms of preparation in both Honolulu and Kailua were fried, boiled, and scrambled. A sizable proportion of consumers indicated they regularly poached their eggs, but only a small percentage indicated they served eggs in other forms, such as omelets.

By far the most common form of preparation in both areas was frying. Seventy-nine percent of the respondents in both Honolulu and Kailua indicated they regularly fried their eggs. The use of fried eggs was especially high in Honolulu among the Hawaiian, Miscellaneous, and Filipino groups with a somewhat lower usage among the Oriental or predominantly Oriental groups and a still lower importance among the Caucasian or predominantly Caucasian groups. A generally similar pattern also prevailed in Kailua.

Sixty-three percent of the homemakers in Honolulu and 59 percent of those in Kailua indicated they frequently boiled their eggs. The Japanese in both Honolulu and Kailua registered the highest percentages using this method in their respective areas. The lowest percentage in Honolulu was registered by the Filipinos, and the lowest in Kailua by the Caucasians. There was a tendency for the percentage of homemakers regularly boiling their eggs to increase as the income level of the respondents increased.

Fifty-seven percent of the respondents in Honolulu and 75 percent of those in Kailua indicated they regularly scrambled their eggs. The Hawaiian and Filipino groups in Honolulu registered the highest percentages for this method, and the predominantly Caucasian and predominantly Japanese groups the lowest. In Kailua, the highest percentages of consumers who scrambled eggs were registered by the Caucasian and Japanese groups, and the lowest by the Miscellaneous group. In Honolulu there was a positive relationship between percentage of response to scrambling and family income. This trend was not apparent in Kailua.

Nineteen percent of the consumers in Honolulu and 34 percent of those in Kailua indicated they regularly poached their eggs. The use of poached eggs was most prevalent among the Caucasian group in both Honolulu and Kailua and the Japanese and Miscellaneous groups in Kailua. Hence, the higher percentage in Kailua would be due in large part to the higher proportion of Caucasians in that area. Poaching of eggs was least prevalent among the Filipino group. As was true with respect to scrambling, there was a tendency in both areas for an increased percentage of households regularly poaching their eggs with each higher income level.

Table 20. Percentage of respondents using various methods of preparing eggs for table use, by ethnic origin and income group

City and ethnic origin	Fried					Boiled					Scrambled				
	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups
<u>Honolulu</u>	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
Caucasian	74	73	72	69	72	49	59	57	69	59	49	53	64	70	58
Caucasian predominant	54	81	91	73	74	63	46	55	87	58	42	42	64	67	48
Japanese	82	82	72	83	80	75	65	69	70	68	47	54	51	64	55
Japanese predominant	92	90	b/	60	79	77	58	75	60	64	31	61	b/	47	51
Chinese	72	78	68	83	77	83	62	64	67	67	59	60	64	60	57
Part Hawaiian <sup>a/</sup>	90	98	83	78	92	52	61	58	61	59	59	63	75	61	64
Filipino	79	88	b/	b/	87	42	65	38	63	55	55	99	88	63	60
Miscellaneous	b/	b/	b/	67	90	b/	75	67	67	67	70	60	33	33	57
All groups	78	83	74	77	79	59	62	62	69	62	b/	55	59	64	57
<u>Kailua</u>															
Caucasian	78	75	70	72	72	44	31	61	62	53	78	84	74	85	83
Caucasian predominant	b/	83	b/	86	83	b/	83	b/	71	65	b/	83	b/	51	70
Japanese	67	b/	93	84	90	67	92	80	63	76	67	58	93	78	78
Miscellaneous <sup>c/</sup>	80	82	75	90	83	40	59	b/	64	57	80	55	b/	36	52
All groups	78	82	80	76	79	44	54	66	62	59	72	71	80	76	75

City and ethnic origin	Poached					Omelet					Other				
	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups
<u>Honolulu</u>	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
Caucasian	24	22	23	39	28	6	7	b/	8	6	3	2	b/	2	2
Caucasian predominant	13	17	9	20	15	13	7	27	20	13	4	b/	b/	b/	1
Japanese	16	13	12	22	15	3	7	7	9	7	b/	1	2	2	1
Japanese predominant	8	10	13	33	15	b/	b/	13	20	6	b/	b/	b/	b/	b/
Chinese	10	17	27	17	17	10	b/	18	4	5	3	12	5	11	9
Part Hawaiian <sup>a/</sup>	24	17	21	26	20	3	11	8	9	9	b/	b/	b/	b/	b/
Filipino	6	12	b/	25	10	3	8	b/	b/	5	b/	b/	b/	b/	b/
Miscellaneous	10	30	b/	b/	18	20	10	b/	33	13	b/	5	b/	b/	b/
All groups	17	16	17	27	19	6	7	8	9	7	2	2	2	3	2
<u>Kailua</u>															
Caucasian	22	38	30	43	38	b/	3	b/	2	2	b/	9	9	2	5
Caucasian predominant	b/	33	b/	43	30	b/	b/	b/	14	6	b/	b/	b/	14	6
Japanese	33	42	40	32	37	b/	17	7	5	8	33	b/	7	11	8
Miscellaneous <sup>c/</sup>	40	18	b/	27	21	b/	10	b/	b/	5	b/	5	b/	9	5
All groups	28	31	30	39	34	b/	7	2	3	4	6	5	7	5	5

<sup>a/</sup> Including a very small and indeterminate number of Pure Hawaiians.<sup>b/</sup> Sample too small to classify.<sup>c/</sup> Including Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

Seven percent of the homemakers in Honolulu and 4 percent of those in Kailua indicated they regularly made omelets. In Honolulu, the highest percentages were registered by the predominantly Caucasian and Miscellaneous groups, and the lowest by the Filipino and Chinese groups. In Kailua, consumption of omelets by the Japanese was exceptionally high, and by the Caucasians, exceptionally low. Again, the tendency was for increased omelet consumption in response to increases in income levels.

Other miscellaneous means of preparing eggs were registered by 2 percent of the people in Honolulu and 5 percent of those in Kailua.

### **SHELL-COLOR PREFERENCE**

Approximately one-fourth of the respondents both in Honolulu and Kailua indicated a shell-color preference (Table 21). There were no marked differences between ethnic groups as to the percentage of the population with shell-color preferences but there were significant differences with respect to the color preferred. Eighty percent of the Chinese and 66 percent of the Japanese respondents indicating shell-color preferences in Honolulu preferred brown-shelled eggs. Of consumers with shell-color preferences in all ethnic groups combined, the preference in Honolulu was 43 percent for white-shelled eggs and 57 percent for brown-shelled eggs as compared with 65 percent for white-shelled eggs and 35 percent for brown-shelled eggs in Kailua. In contrast to this, 65 percent of the Caucasians in Honolulu and 69 percent of those in Kailua preferred brown-shelled eggs. Nevertheless it is significant that whereas 66 percent of the Japanese group preferred brown-shelled eggs in Honolulu, only 47 percent of them preferred the brown-shelled eggs in Kailua. Whereas there was a somewhat greater tendency toward a shell-color preference among the low income people than among the high income people, there was no consistent relationship between income and the particular color preferred.

The particular shell-color preference seems to be determined to a large extent by the origin of the people. Brown-shell preference is stronger in the Orient, and the Oriental groups are of the opinion that brown-shelled eggs are more nourishing. Persons who recently arrived from the U. S. Mainland, on the other hand, were more familiar with white-shelled eggs, which they considered of higher quality.

Although a significant proportion of homemakers indicated preference for either white or brown eggs, as indicated earlier, there were few objections to mixed shell colors. Only 3 percent of the respondents in Honolulu and 6 percent of those in Kailua objected to mixed shell colors in the same carton.

### **BRAND PREFERENCES**

Somewhat over half of the respondents in both Honolulu and Kailua indicated that they usually bought one brand of eggs (Table 22). There were no significant differences within income groups or ethnic origin groups with respect to the percentage of respondents buying the same brand.

Table 21. Percentage of households with shell-color preference and preference for white and brown shells, by ethnic origin and income group

City and ethnic origin	With shell-color preference					Preferring white					Preferring brown				
	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups
	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
<u>Honolulu</u>															
Caucasian	27	23	28	24	25	77	58	71	59	65	23	42	29	41	35
Caucasian predominant	16	30	27	27	25	b/	42	67	b/	48	6	58	33	b/	52
Japanese	20	30	16	31	27	46	32	31	34	34	55	68	69	66	66
Japanese predominant	23	27	75	13	29	67	38	b/	b/	37	33	63	b/	b/	63
Chinese	48	33	32	30	34	7	16	b/	44	20	93	84	b/	56	80
Part Hawaiian <sup>a/</sup>	14	26	33	39	27	25	52	38	67	b/	75	48	63	33	b/
Filipino	28	27	b/	25	25	67	46	b/	b/	54	33	54	b/	b/	46
Miscellaneous	30	35	17	b/	28	67	29	b/	b/	36	33	71	b/	b/	64
All groups	26	28	25	28	27	b/	39	38	b/	43	b/	61	62	51	57
<u>Kailua</u>															
Caucasian	55	34	13	29	30	30	64	67	70	69	20	36	33	30	31
Caucasian predominant	b/	b/	b/	b/	18	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/
Japanese	b/	33	20	37	31	b/	b/	b/	71	53	b/	b/	b/	40	47
Miscellaneous <sup>c/</sup>	b/	14	b/	9	14	b/	33	b/	b/	53	b/	67	b/	b/	b/
All groups	33	29	18	27	26	83	62	38	71	65	17	38	63	29	35

<sup>a/</sup> Including a very small and indeterminate number of Pure Hawaiians.

<sup>b/</sup> Sample too small to classify.

<sup>c/</sup> Including Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

Table 22. Percentage of households buying same brand of eggs,  
by ethnic origin and income group

City and ethnic origin	Under \$4,000 (Percent)	\$4,000 to \$7,999 (Percent)	\$8,000 to \$9,999 (Percent)	\$10,000 and over (Percent)	All income groups (Percent)
<u>Honolulu</u>					
Caucasian	57	51	44	62	55
Caucasian predominant	50	51	55	47	51
Japanese	50	57	40	46	51
Japanese predominant	31	57	63	73	56
Chinese	38	36	50	50	43
Part Hawaiian <sup>a/</sup>	63	45	50	75	54
Filipino	41	48	54	70	51
Miscellaneous	60	47	50	67	53
All groups	51	51	46	55	51
<u>Kailua</u>					
Caucasian	56	56	57	58	57
Caucasian predominant	<u>b/</u>	<u>b/</u>	<u>b/</u>	71	53
Japanese	100	58	73	58	65
Miscellaneous <sup>c/</sup>	60	77	50	27	60
All groups	58	63	61	56	59

<sup>a/</sup> Including a very small and indeterminate number of Pure Hawaiians.

<sup>b/</sup> Sample too small to classify.

<sup>c/</sup> Including Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

The most important reason given for buying a particular brand of eggs was simply that the respondents were accustomed to it. Twenty-seven percent in Honolulu and 29 percent in Kailua gave this reason (Table 23). Seventeen percent in Honolulu and 22 percent in Kailua bought a particular brand of eggs because they considered the eggs fresher and 16 percent

Table 23. Reasons for buying same brand of eggs, by ethnic origin and income group

City and ethnic origin	Fresher					Cheaper					Accustomed				
	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups
	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
<u>Honolulu</u>															
Caucasian	17	16	22	23	19	29	16	4	3	14	11	18	33	32	22
Caucasian predominant	9	15	b/	29	14	9	25	b/	14	23	36	30	17	14	27
Japanese	22	14	12	16	15	11	11	21	10	12	45	26	32	28	29
Japanese predominant	b/	18	20	27	19	b/	6	20	18	11	b/	35	b/	36	33
Chinese	27	29	18	11	20	18	19	9	22	19	18	29	45	22	27
Part Hawaiian <sup>a/</sup>	25	10	15	b/	11	33	26	8	25	24	25	23	54	44	33
Filipino	30	23	25	33	27	25	18	b/	b/	17	15	32	25	33	25
Miscellaneous	b/	11	b/	b/	10	33	33	33	b/	30	b/	11	67	b/	15
All groups	19	16	16	19	17	23	16	15	11	16	22	25	35	30	27
<u>Kailua</u>															
Caucasian	b/	11	15	28	20	20	28	15	5	13	20	17	62	23	28
Caucasian predominant	b/	b/	b/	60	33	b/	b/	b/	b/	b/	b/	b/	b/	b/	45
Japanese	b/	43	27	18	25	33	14	18	27	22	33	29	45	27	34
Miscellaneous <sup>c/</sup>	b/	29	b/	b/	20	33	24	b/	33	28	b/	18	b/	33	20
All groups	b/	22	19	28	22	27	22	19	10	17	18	25	56	22	29

City and ethnic origin	Store carries					Convenience					Other				
	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups	Under \$4,000	\$4,000 to \$7,999	\$8,000 to \$9,999	\$10,000 and over	All income groups
	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
<u>Honolulu</u>															
Caucasian	27	21	15	9	18	b/	2	b/	1	1	16	28	26	32	26
Caucasian predominant	36	5	33	14	18	b/	5	b/	b/	2	9	20	b/	29	16
Japanese	11	13	18	15	14	b/	7	b/	3	5	11	29	18	28	25
Japanese predominant	b/	18	b/	b/	8	b/	6	b/	b/	3	b/	18	60	18	27
Chinese	b/	5	b/	7	4	b/	5	b/	4	3	36	14	27	33	27
Part Hawaiian <sup>a/</sup>	8	8	8	6	8	8	5	8	b/	5	b/	28	8	25	20
Filipino	b/	5	b/	b/	2	5	b/	b/	17	4	25	23	b/	17	25
Miscellaneous	17	11	b/	b/	10	b/	b/	b/	b/	b/	33	33	b/	b/	35
All groups	16	13	13	10	13	1	5	1	3	3	18	26	21	29	25
<u>Kailua</u>															
Caucasian	b/	11	b/	21	13	b/	b/	b/	3	1	60	33	8	21	24
Caucasian predominant	b/	b/	b/	40	22	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/
Japanese	33	b/	b/	9	6	b/	b/	b/	b/	b/	b/	14	9	18	13
Miscellaneous <sup>c/</sup>	33	18	b/	b/	16	33	b/	b/	b/	4	b/	12	b/	33	12
All groups	18	11	b/	19	13	9	b/	b/	2	1	27	20	7	19	18

a/ Including a very small and indeterminate number of Pure Hawaiians.

b/ Sample too small to classify.

c/ Including Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.



in Honolulu and 17 percent in Kailua did so because they thought the eggs were cheaper. Thirteen percent in both cities bought a particular brand because it was stocked in the store where they usually did their shopping.

There was a definite inverse relationship between income and the indication of lower price as a reason for buying a particular brand. This does not mean that there actually were significant differences in prices in all instances but that purchasers thought there were and acted accordingly. About 25 percent of the respondents in the lowest income group but only 10 percent of those in the highest income group in both cities gave price as the primary reason for brand preference.

Assumed lower price was a less important reason for brand preference among the Caucasians and Japanese than for the other ethnic groups. Freshness as a factor in brand preference was more important among the Japanese predominant, Caucasian, Chinese, Filipino, and Miscellaneous groups and least important for the Hawaiian.

### **RECALL OF EGG ADVERTISEMENTS**

The respondents interviewed were asked as to whether they had noticed any advertisements for either mainland or island eggs shortly prior to being surveyed. Twenty-five percent of those in Honolulu and 20 percent in Kailua did recall such advertising (Table 24). The lower figure for the Kailua area could be due to the higher proportion of Caucasians interviewed in that area; the Caucasian group exhibited a lower than average response to egg advertising in both Honolulu and Kailua.

In Honolulu, consumers in the higher income levels were more conscious of egg advertising than those in the lower income levels. While only 17 percent of the lowest income group recalled recent egg advertising, 24 percent of the second and 27 percent of the two highest income groups did so. In Kailua, however, the higher income groups were much less aware of advertising for eggs than the lower income groups. While 28 percent of the lowest income group and 25 percent of the second lowest income group recalled advertising, only 21 percent of the second highest and only 12 percent of the highest income groups did so. In Honolulu, the Chinese group recorded the highest percentage of respondents recalling advertising with 37 percent, while the Filipino group recorded the lowest percentage, with 13 percent. In Kailua, the highest response was in the predominantly Caucasian group, who recorded 33 percent, while the lowest response was in the pure Caucasian group, who recorded 15 percent.

### **TYPES OF EGG ADVERTISING RECALLED**

In both Honolulu and Kailua, a significantly higher percentage of people indicated that they recalled seeing advertisements for island rather than mainland eggs (Table 25). While 23 percent of the respondents in Honolulu and 17 percent of those in Kailua indicated seeing recent advertisements for island eggs, only 8 percent of those in both Honolulu and

Table 24. Percentage of households recalling egg advertisements, by ethnic origin and income group

City and ethnic origin	Under \$4,000 (Percent)	\$4,000 to \$7,999 (Percent)	\$8,000 to \$9,999 (Percent)	\$10,000 and over (Percent)	All income groups (Percent)
<u>Honolulu</u>					
Caucasian	17	20	30	29	24
Caucasian predominant	24	20	36	13	20
Japanese	15	24	21	28	24
Japanese predominant	18	26	13	20	24
Chinese	24	41	32	30	37
Part Hawaiian <sup>a/</sup>	21	31	38	26	31
Filipino	12	12	25	13	13
Miscellaneous	10	20	17	33	20
All groups	17	24	27	27	25
<u>Kailua</u>					
Caucasian	44	22	13	9	15
Caucasian predominant	<u>b/</u>	<u>b/</u>	<u>b/</u>	<u>b/</u>	33
Japanese	50	33	33	21	29
Miscellaneous <sup>c/</sup>	<u>b/</u>	18	<u>b/</u>	27	19
All groups	28	25	21	12	20

<sup>a/</sup> Including a very small and indeterminate number of Pure Hawaiians.

<sup>b/</sup> Sample too small to classify.

<sup>c/</sup> Including Japanese predominant, Chinese, Part Hawaiian, and Filipino as well as other Miscellaneous groups because of too few households in each sample to permit separate classification.

Kailua indicated that they had seen mainland eggs advertised in Hawaii. This was undoubtedly due to greater familiarity and contact with local rather than mainland brands reflecting the predominance of island egg sales, as well as the greater amount of advertising done by the island egg companies.

Table 25. Response to advertising of island and mainland eggs

	Percentage of respondents indicating and recall	Percentage recall of each media of those who did recall			
		Newspapers	Television	Radio	Other
<u>Honolulu</u>					
Island eggs	23	86	6	1	6
Mainland eggs	8	89	2	1	8
<u>Kailua</u>					
Island eggs	17	85	5	0	5
Mainland eggs	8	85	5	0	5

The newspaper was the advertising medium most often recalled by respondents in both Honolulu and Kailua. Of the households who did recall advertising for island eggs, 86 percent of those in Honolulu and 85 percent of those in Kailua indicated noticing such advertising in the newspapers. Of those who recalled advertising of mainland eggs, 89 percent of those in Honolulu and 85 percent of those in Kailua indicated newspapers as the source.

Six percent of the households in Honolulu and 5 percent of those in Kailua who indicated they had noticed advertising for island eggs recently responded they had noticed such advertising on television. Two percent in Honolulu and 5 percent of those in Kailua recalling advertising for mainland eggs indicated television as the advertising media. Indications of having seen television advertising were highest in the lower income groups, as well as in the Caucasian and predominantly Caucasian ethnic groups.

A negligible percentage of respondents recalled advertising by radio or by more than one of the three media. A significant proportion of respondents did indicate other media than newspapers, television, or radio. Of those households in Honolulu who recalled advertising for local eggs, 6 percent indicated media other than those listed. In Kailua, 5 percent indicated recalling advertisements through other media for local eggs. With respect to advertising for mainland eggs, 8 percent of the respondents in Honolulu and 5 percent of those in Kailua who did recall such advertising indicated they noticed it through media other than newspapers, television, and radio.

## SUMMARY

The Hawaii egg industry has undergone an unusually rapid expansion during the past 10 years in response both to a 30 percent increase in population of the State and to an increase in Hawaii production of the total egg supply from 63 percent in 1954 to 93 percent in 1964. Coupled with these dynamic changes have been significant changes in the ethnic composition and income of the population. This study presents an analysis of changes in egg consumption and the effects of ethnic origin, income, price, and market development on the egg industry in the State of Hawaii. The publication is based primarily on surveys of consumer demand for eggs in Honolulu and Kailua. Highlights of the findings are as follows:

1. Whereas national per capita consumption of eggs declined from 379 in 1954 to 325 in 1964, Hawaii per capita consumption increased from 202 to 269 during the same period.
2. During the 10-year period from 1954 to 1964, the quantity of eggs marketed by Hawaii producers increased by 161 percent from 5,838,000 dozen to 15,250,000 dozen, representing cash receipts of \$4,121,000 and \$8,281,000, respectively.
3. The majority of consumers in metropolitan Honolulu tend to purchase eggs once a week. Once-a-week purchases were somewhat more frequent in Honolulu than in Kailua, being 70 percent and 60 percent, respectively. Weekly purchases were somewhat more frequent among Japanese and Chinese than among other ethnic groups. Also, higher income groups tended to buy eggs much more frequently than did lower income groups.
4. The most frequent size of purchase at any one time was 2 dozen eggs, but with almost as large a proportion of homemakers buying 1 dozen eggs at a time.
5. One-third of the homemakers in Honolulu and one-fourth of those in Kailua indicated that they were buying more eggs during the survey year than during the previous year. The increase was somewhat greater among low income groups than among high income groups, probably reflecting the effect of annual increase in incomes at the lower levels on egg purchases whereas the higher income groups were already buying as many eggs as they wanted.
6. Except for those in the low income group, respondents indicated that they would not be highly sensitive to minor increases in price. Eighty-three percent in Honolulu and 79 percent in Kailua indicated they would buy the same quantity and size of eggs if the price were to increase 5 cents per dozen. With a 10-cent increase per dozen, 76 percent in Honolulu and 57 percent in Kailua would not change their buying habits. Consumers in general were about equally as insensitive to a proposed 5-cent decrease per dozen as to a 5-cent increase, but somewhat more sensitive to a 10-cent decrease per dozen than to a 10-cent increase.

Respondents in the lower income groups were considerably more responsive to proposed price changes than were the high income groups.

7. Eighty-nine percent of the respondents in Honolulu and 86 percent of those in Kailua indicated a preference for island over mainland eggs, which is about equal to the proportion of island versus mainland imports sold at the time of the survey. Of all the ethnic groups, Japanese indicated the highest preference for island eggs. Although preference for mainland eggs was low for all groups, it was highest among the Caucasians. There was also a somewhat higher proportion of purchases of the lower priced mainland eggs among the lower income groups.

8. The primary reason for preferring island eggs in relation to mainland eggs was freshness. Over one-half of the island-egg purchasers in both areas thought the island eggs were fresher than mainland eggs. The only other important reason was that the island eggs tasted better, which was indicated by 13 percent of the respondents in Honolulu and 15 percent of those in Kailua.

Caucasians gave more emphasis to freshness as a reason for purchasing island eggs, with about two-thirds of the Caucasian purchasers of island eggs giving this reason.

Over half of the mainland-egg purchasers in Honolulu and two-thirds of those in Kailua indicated lower price as the primary reason for their purchases. There was a definite increase relationship between purchase of mainland eggs and income level.

Superior taste and habit were minor but of second and third importance as reasons for purchasing mainland eggs.

9. Forty-three percent of the respondents in Honolulu and 56 percent of those in Kailua indicated that they purchased their eggs from supermarket chains. Purchases through independent markets and direct from farmers were more important in Honolulu than in Kailua. Commissary purchases, on the other hand, were more important in Kailua. Higher income groups tended to buy a larger proportion of their eggs through supermarket chains in both areas.
10. Consumers tended to consistently buy eggs from the same source. Seventy-six percent in Honolulu and 84 percent in Kailua bought most of their eggs consistently at one place.
11. Seventy-three percent of the respondents in Honolulu, but only 49 percent in Kailua, indicated they usually bought grade A large eggs. The remainder of the respondents bought primarily grade A medium. Only 6 percent in Honolulu and 7 percent in Kailua bought a lower grade of eggs for cooking and baking.
12. Most of the respondents indicated satisfaction with the eggs they purchased. Only 6 percent in Honolulu and 10 percent in Kailua registered any complaints.

13. Approximately three-fourths of the respondents in both Honolulu and Kailua used the eggs they purchased as table eggs for direct consumption.
14. The most common method of preparing eggs in both Honolulu and Kailua was frying. About 80 percent of the respondents used fried eggs. About two-thirds of the homemakers in Honolulu and somewhat less than two-thirds in Kailua also regularly consumed boiled eggs. Fifty-seven percent in Honolulu and 75 percent in Kailua frequently scrambled the eggs they purchased. Nineteen percent in Honolulu and 34 percent in Kailua poached their eggs, but few in either area made omelets.
15. Approximately one-fourth of the respondents both in Honolulu and in Kailua indicated a preference for either white- or brown-shelled eggs. In Honolulu, 43 percent of those who indicated a preference preferred white-shelled eggs and 57 percent preferred brown-shelled eggs. In Kailua, the preference was 65 percent for white-shelled and only 35 percent for brown-shelled eggs. White-shell preference tended to be greater among the Caucasians and brown-shell preference was greater among the Orientals.
16. Over one-half of the respondents in both areas indicated that they usually bought the same brand of eggs. The primary reason given for buying the same brand was custom. Freshness and cheapness were also given as important reasons for brand loyalty.
17. Only about one-fourth of the respondents in each area recalled recent egg advertisements. Newspaper ads were the only media recalled by a substantial percentage of the population. About 85 percent of those who recalled advertising recalled newspaper ads.

**APPENDIX A:**  
**CODE FOR CLASSIFICATIONS OF FAMILY CHARACTERISTICS**

**A. Income Groups**

1. The entire family's gross income was recorded as given by the respondent. I.e., the total gross income of every working person in the family.
2. Adjustments were made for greater accuracy. E.g., cases in which the respondent would give an income obviously false, a calculated adjustment was made.
3. Estimates were often made when the respondent refused to divulge his income or did not know the total family income.

**B. Ethnic Groups**

1. If the husband and wife were both pure Japanese, their classification was Japanese.
2. If the husband was other than Japanese and his wife was pure Japanese, the family classification was designated Japanese predominant.
3. If the husband was of any ethnic group and his wife was predominantly Japanese, the classification was Japanese predominant. Caucasian, Chinese, Filipino, and Hawaiian groups were classified on the same basis.
4. If either or both husband and wife were of an ethnic group too small for separate classification, or of mixed origin too small for separate classification, they were classified as Miscellaneous. These included any ethnic groups not included in items 1 through 3 above.
5. Single persons, widows and widowers, and divorcees, (with or without children), were listed under the classification of their respective ethnic group.

**C. Education Groups**

1. A housewife's education was taken as the family's education group, since she would be the most likely party to affect the buying practices of the family.
2. The head-of-the-household's education was taken as the family's education in cases where there was no housewife. In the case of a widower, or widow, living with his or her grown male or female children, the education of the female who did the purchasing was taken.
3. In the case of single people living together, the person doing the purchasing of the foodstuffs had his education listed as the family's education.
4. Formal education in a foreign country was recorded as an equivalent in the United States.

**D. Occupation Groups**

1. *Professional or Technical*: (usually someone with advanced training). E.g., architect, stockbroker, technician (certain types), bookkeeper,

- career army officer, teacher, minister, college professor, engineer, doctor, lawyer, etc.
2. *Manager and/or Proprietor*: land and business owner or manager, white-collar worker, supervisor, contractor, apartment owner, business agent, etc.
  3. *Craftsman or Foreman*: skilled worker, mechanic, roofer, carpenter, ship officer, barber, etc.
  4. *Operative or Enlisted Man*: driver, bus boy, milkman, fireman, policeman, reporter, stevedore, photographer, Armed Forces enlisted man, aviator, etc.
  5. *Clerical or Sales*: civil service employee, insurance agent, secretary, sales clerk, bank teller, etc.
  6. *Household Service*: maid, cook, waitress, waiter, bartender, butler, etc.
  7. *Laborer*: warehouser, gardener, custodian, dredger, packer, pineapple picker, etc.
  8. *Other*: persons with income from stocks and bonds, alimony, pension, working capital, welfare, social security; entertainer, etc.
  9. No Reply: (when it was impossible to discover the respondent's occupation, through his response or our calculated guesses) .



## APPENDIX B: SURVEY FORM

Questionnaire No. \_\_\_\_\_

### CONFIDENTIAL

#### AN ECONOMIC ANALYSIS OF EGG MARKETING IN HONOLULU AND KAILUA, OAHU, HAWAII

#### Consumer Questionnaire

Code No: \_\_\_\_\_

Address \_\_\_\_\_

Interviewed: Husband ☐ Wife ☐

Other \_\_\_\_\_

Date of Interview \_\_\_\_\_

Time of Interview \_\_\_\_\_

Interviewed by \_\_\_\_\_

DO NOT WRITE IN THIS SPACE

Checked by \_\_\_\_\_

Date checked \_\_\_\_\_

OK ☐ Recall ☐

Questions to be corrected \_\_\_\_\_

1. Does everyone in your household eat eggs? Yes ☐ No ☐

If "no," Why not?

Men. . . . . Age. . . . . Reasons . . . . .

Women. . . . . Age. . . . . Reasons . . . . .

Boys . . . . . Age. . . . . Reasons . . . . .

Girls. . . . . Age. . . . . Reasons . . . . .

2. How often do you buy eggs? (check one)

a. Daily . . . . . a. ☐

b. Twice weekly . . . . . b. ☐

c. Weekly . . . . . c. ☐

d. Every two weeks . . . . . d. ☐

e. Other (specify) . . . . . e. ☐

3. How many eggs do you usually buy at one time? (check One)

a. One-half dozen . . . . . a. ☐

b. One dozen . . . . . b. ☐

c. Two dozen . . . . . c. ☐

d. Three dozen . . . . . d. ☐

- e. Four dozen \_\_\_\_\_ e. ☐
- f. Other (specify) \_\_\_\_\_ f. ☐
4. How many eggs does your family consume per week?  
 \_\_\_\_\_ eggs, or \_\_\_\_\_ dozen eggs
5. Of the eggs that your family consumes each week, how many eggs are used as:  
 a. Plain eggs on the table \_\_\_\_\_  
 b. Ingredients in baking and cooking \_\_\_\_\_
6. In order of importance, what are the ways you prepare most of your eggs for table use? (number in order of importance)  
 a. Fried ☐ c. Scrambled ☐ e. Others ☐  
 b. Boiled ☐ d. Poached ☐
7. From whom do you buy eggs?  
 a. Independent Grocer (small) \_\_\_\_\_ a. ☐  
 b. Independent Grocer (super) \_\_\_\_\_ b. ☐  
 c. Chain stores \_\_\_\_\_ c. ☐  
 d. Direct from producers \_\_\_\_\_ d. ☐  
 e. Commissary \_\_\_\_\_ e. ☐  
 f. Other (specify) \_\_\_\_\_ f. ☐
8. Do you purchase your eggs where you buy most of your groceries?  
 Yes ☐ No ☐
9. Do you buy most of your eggs at the same place during the year?  
 Yes ☐ No ☐
10. What grade of eggs do you usually buy?  
 a. Grade A Large \_\_\_\_\_ a. ☐  
 b. Grade A Medium \_\_\_\_\_ b. ☐  
 c. Grade A Small \_\_\_\_\_ c. ☐  
 d. Ungraded \_\_\_\_\_ d. ☐  
 e. Other (specify) \_\_\_\_\_ e. ☐

11. Do you buy a different grade of eggs as ingredients for baking and cooking than for table use?

Yes ☐ Why? \_\_\_\_\_

No ☐ Why? \_\_\_\_\_

12. Do you usually buy Island eggs, Mainland eggs, or other imported eggs?

a. Island eggs \_\_\_\_\_ a. ☐  
Why do you buy Island eggs?

1. Cheaper \_\_\_\_\_ 1. ☐

2. Fresher \_\_\_\_\_ 2. ☐

3. Superior taste \_\_\_\_\_ 3. ☐

4. Other (specify) \_\_\_\_\_ 4. ☐

b. Mainland eggs \_\_\_\_\_ b. ☐  
Why do you buy Mainland eggs?

1. Cheaper \_\_\_\_\_ 1. ☐

2. Fresher \_\_\_\_\_ 2. ☐

3. Superior taste \_\_\_\_\_ 3. ☐

4. Other (specify) \_\_\_\_\_ 4. ☐

c. Other imported eggs \_\_\_\_\_ c. ☐  
Why do you buy other imported eggs?

1. Cheaper \_\_\_\_\_ 1. ☐

2. Fresher \_\_\_\_\_ 2. ☐

3. Superior taste \_\_\_\_\_ 3. ☐

4. Other (specify) \_\_\_\_\_ 4. ☐

d. More than one kind \_\_\_\_\_ d. ☐  
Which type do you usually buy more?

1. Island eggs \_\_\_\_\_ 1. ☐

2. Mainland eggs \_\_\_\_\_ 2. ☐

3. Other imported eggs \_\_\_\_\_ 3. ☐

4. Same amounts of each \_\_\_\_\_ 4. ☐

Why? \_\_\_\_\_

13. Do you usually buy the same brand of eggs?

Yes ☐ No ☐

If "yes," what is the brand? \_\_\_\_\_

Reasons for buying the brand? (check one)

- a. Better packaging \_\_\_\_\_ a. ☐
- b. Eggs are fresher and in better condition \_\_\_\_\_ b. ☐
- c. Price is cheaper \_\_\_\_\_ c. ☐
- d. Home delivery \_\_\_\_\_ d. ☐
- e. Like it \_\_\_\_\_ e. ☐
- f. Other (specify) \_\_\_\_\_ f. ☐

14. Do you have any complaints about the condition of the eggs you have been buying?

No ☐ Yes ☐ What \_\_\_\_\_

15. Are you buying more eggs for home use this year than you were last year?

No ☐

If "yes," is it due to

- a. Recommendation by doctor? \_\_\_\_\_ a. ☐
- b. Growth of children? \_\_\_\_\_ b. ☐
- c. Increase in family size? \_\_\_\_\_ c. ☐
- d. Increase in income? \_\_\_\_\_ d. ☐

16. If egg prices went up 5 cents per dozen, how would this affect your purchases of eggs?

Buy less ☐ Buy same ☐ Buy smaller size ☐

What if prices went up 10 cents per dozen, how would this affect your purchases of eggs?

Buy less ☐ Buy same ☐ Buy smaller size ☐

17. If egg prices went down 5 cents per dozen, how would this affect your purchases of eggs?

Buy more ☐ Buy same ☐ Buy larger size ☐

What if prices went down 10 cents per dozen, how would this affect your purchases of eggs?

Buy more ☐ Buy same ☐ Buy larger size ☐

(The next few questions pertain to eggs the respondent has on hand.)

18. Where were they purchased?

Name of store \_\_\_\_\_

19. What was the size of your last purchase?

Number of eggs \_\_\_\_\_

20. Please provide the following information about these eggs:

Date Purchased	Grades Purchased	Cost per Doz.	Brand Name	Island or Mainland, etc.
	AA			
	A Large			
	A Medium			
	A Small			
	Other			

21. In what type of container were they purchased?

- a. Paper cartons \_\_\_\_\_ a. ☐
- b. Fiber cartons \_\_\_\_\_ b. ☐
- c. Filler flats \_\_\_\_\_ c. ☐
- d. Other (specify) \_\_\_\_\_ d. ☐

22. Where do you keep your eggs?

- a. Refrigerator or ice box \_\_\_\_\_ a. ☐
- b. Un-refrigerated place(s) \_\_\_\_\_ b. ☐

23. Do you have a definite shell color preference?

Yes ☐ No ☐

If "yes," which of these shell colors do you prefer?

- c. White ☐ Why? \_\_\_\_\_
- d. Brown ☐ Why? \_\_\_\_\_

24. Do you have any objection to having mixed colors in the same carton?

No ☐ Yes ☐ What? \_\_\_\_\_

25. Have you seen eggs advertised lately?

Yes ☐ No ☐

If "yes," please give the following information: (check)

Media Used	Type of eggs seen in advertisement	
	Island	Imported
TV		
Radio		
Newspapers		

26. Ethnic origin of wife  
(no mixture)

Japanese ☐

Caucasian ☐

Chinese ☐

Filipino ☐

Hawaiian ☐

Other ☐

( ☐ )

If mixed, but not 50-50,  
indicate predominate  
ethnic group:

Ethnic origin of husband  
(no mixture)

Japanese ☐

Caucasian ☐

Chinese ☐

Filipino ☐

Hawaiian ☐

Other ☐

( ☐ )

If mixed, but not 50-50,  
indicate predominate  
ethnic group:

27. Please list all the members of your household by sex and age.

a. Male ( ) ( ) ( ) ( ) ( ) ( )

b. Female ( ) ( ) ( ) ( ) ( ) ( )

28. What is the highest grade of schooling completed by:

WIFE

College graduate ☐

Some college education ☐

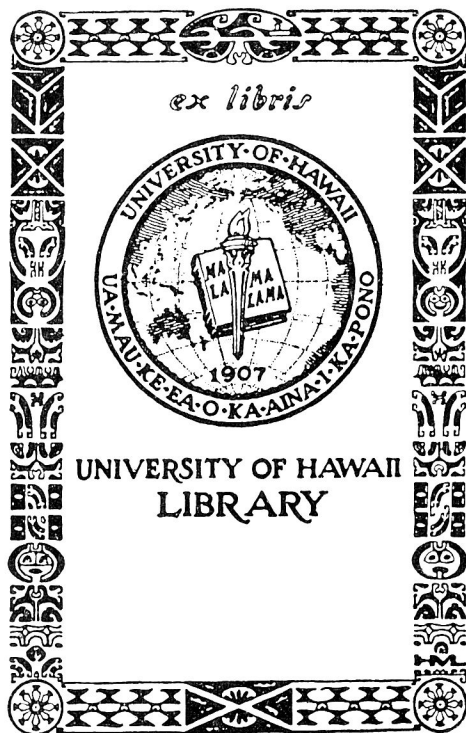
Trade or business school ☐

HUSBAND

College graduate ☐

Some college education ☐

Trade or business school ☐



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